CLAIMS

1. A drive electronics for driving an optoelectronic device with a matrix of picture elements, having

a drive circuit (102x), wherein
the drive circuit has input terminals (110) and output terminals (112);

a first arrangement of contact areas (104) connected with the input terminals of the drive circuit (102x); and

a second arrangement of contact areas (105) connected with the input terminals of the drive circuit (102x).

2. The drive electronics according to claim 1, wherein:

the contact areas (105) of the second arrangement of contact areas are larger than the contact areas (104) of the first arrangement of contact areas.

3. The drive electronics according to any of the preceding claims, wherein:

the number of input terminals of the drive circuit (102x) by which the drive circuit is connected with the second arrangement of contact areas (105) is at most 5% of the number of output terminals of the drive circuit by which the drive circuit is connected with the control lines (103x) of the matrix of picture elements.

4. The drive electronics according to any of the preceding claims, wherein:

the first arrangement of contact areas (104) serves for picture generation during normal operation; and

the second arrangement of contact areas (105) serves for pattern generation during test mode.

5. The drive electronics according to any of the preceding claims, wherein:

the second arrangement of contact areas (105) is connected with the drive circuit (102x) via the first arrangement of contact areas (104).

6. The drive electronics according to claim 5, wherein:

the second arrangement of contact areas (105) is connected with the drive circuit (102x) via the first arrangement of contact areas (104) by means of switching elements or components.

7. The drive electronics according to claim 5, wherein:

the second arrangement of contact areas (105) is directly connected with the drive circuit (102x) via the first arrangement of contact areas (104).

8. The drive electronics according to any of claims 1 to 4, wherein:

the second arrangement of contact areas (105) is connected with the drive circuit (102x) via a test electronics (202x).

9. The drive electronics according to any of claims 1 to 4, wherein:

the second arrangement of contact areas (105) is directly connected with the drive circuit.

10. The drive electronics according to claim 9, wherein:

test circuits are integrated into the drive circuit.

11. The drive electronics according to any of the preceding claims, wherein:

the number of second pads (105b) of the second arrangement of contact areas (105) is at most 90% of the number of first pads (104b) of the first arrangement of contact areas (104), preferably at most 50%, more preferably at most 20%.

12. The drive electronics according to any of the preceding claims, wherein:

the second pads (105b) of the second arrangement of contact areas are larger than the first pads (104b) of the first arrangement of contact areas.

13. The drive electronics according to any of the preceding claims, wherein:

the second pads (105b) of the second arrangement of contact areas have a dimension of at least 100 μm, preferably a dimension of 0.5 mm, and more preferably a dimension of 2 mm.

14. An arrangement of test contact areas for providing signals for generating a test pattern to an optoelectronic device comprising a matrix of picture elements, having:

at least one pad (105b);

at least one connection (105a) of the at least on pad with a drive circuit (102x), which is provided with signals via an arrangement of operational contact areas (104) during normal operation.

15. The arrangement according to claim 14, wherein:

the drive circuit has input terminals (110) and output terminals (112), and wherein the at least one connection (105a) is connected with at least one of the input terminals (110).

16. The arrangement according to claim 14 or 15, wherein:

the at least one pad of the arrangement of contact areas has a dimension of at least 100 µm, preferably a dimension of 0.5 mm, and more preferably a dimension of 2 mm.

17. The arrangement according to any of claims 14 to 16, wherein:

the number of pads (105b) of the arrangement of test contact areas (105) is at most 90% of the number of pads (104b) of the arrangement of operational contact areas (104), preferably at most 50%, and more preferably at most 20%.

18. The arrangement according to any of claims 14 to 17, wherein:

the arrangement of test contact areas (105) is connected with the drive circuit (102x) via the arrangement of operational contact areas (104).

19. The arrangement according to any of claims 14 to 17, wherein:

the arrangement of test contact areas is connected with the drive circuit (102x) via a test electronics (202x).

20. The arrangement according to any of claims 14 to 17, wherein:

the arrangement of test contact areas is directly connected with the drive circuit (102x).

21. An optoelectronic device having

a matrix of picture elements (101);

at least one drive circuit (102x);

a first arrangement of contact areas (104) connected with the drive circuit (102x); and

a second arrangement of contact areas (105) connected with the drive circuit (102x).

22. A method for testing an optoelectronic device, comprising the steps of:

a) contact is made between an external control and an arrangement of test contact areas;

b) an input terminal of a drive circuit is provided with input signals via the arrangement of test contact areas to generate a test pattern on a matrix of picture elements; and

c) the picture elements of the matrix of picture elements are tested.

23. The testing method according to claim 22, wherein

the input signals generate a periodic test pattern.

24. The testing method according to claim 22 or 23, wherein

the input signals generate a vertically, horizontally and diagonally periodic test pattern.

25. The testing method according to any of claims 22 to 24, wherein:

the picture elements are tested with a beam of charged particles or laser radiation.

26. The testing method according to any of claims 22 to 24, comprising the further step of:

a vacuum is generated in the vicinity of the optoelectronic device to be tested.

27. The testing method according to any of claims 22 to 26, wherein step c) comprises the following steps:

c1) the picture elements in a portion of the matrix of picture elements are tested;

c2) the optoelectronic device is shifted; and

c3) the picture elements in a further portion of the matrix of picture elements are tested.

28. A method for manufacturing a drive electronics of an optoelectronic device having a matrix of picture elements, comprising the steps:

a) a drive circuit is provided;

b) control lines of the matrix of picture elements are connected with output terminals of the drive circuit;

c) a first arrangement of contact areas is provided;

d) the first arrangement of contact areas is connected with input terminals of the drive circuit;

e) a second arrangement of contact areas is provided; and

f) the second arrangement of contact areas is connected with input terminals of the drive circuit.

29. An optoelectronic device, which has been tested by a testing method according to any of claims 22 to 27 or by an apparatus according to any of claims 1 to 21.